

APPENDIX A

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-5Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/25/03Weather: Hot and Sunny

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{140}{\text{TD (feet)}} - \frac{66.39}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{144.16}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**Bailer – Type: _____ ☒ Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
0958	66.39	0.0	7.79	37.8	80.0	10.56	20.80	186	
1013		30	7.80	36.9	2.9	10.62	20.33	192	
1028		60	7.45	37.6	1.5	9.40	19.85	192	
1043		90	7.84	37.8	1.5	10.54	20.33	191	
1058		120	7.52	0.99	2.8	11.59	19.34	258	
1113	66.20	150	7.58	37.4	1.8	9.19	23.90	183	

Total Purge Volume: 150 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 2.0 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Purge time start: 0958; brownish in color w/ no odor @ 1st interval; clear and odorless for the remainder intervals; control box: 381**RECHARGE BEHAVIOR:** ☒ Fast recharging
Slow recharging (80% recharge did not occur after two hours)**WATER DISPOSAL**Purge water storage: PolytankPurge water disposal: 150**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-5</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>1117</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>3+1+1</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-6Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/27/03Weather: Cool and Sunny

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{245}{\text{TD (feet)}} - \frac{179.30}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{128.67}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**Bailer – Type: _____ ☒ Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C)	ORP (mV)	Comments
0748	128.67	0	6.85	99.7	22.2	9.39	20.20	139	
0800		24	6.91	96.6	24.1	8.90	20.85	137	
0812		48	6.93	96.3	5.69	8.87	20.93	137	
0824		62	6.97	95.0	7.31	8.84	21.21	136	
0836		84	6.98	96.4	2.85	9.01	21.56	137	
0848		108	7.03	96.3	1.59	10.01	21.76	136	
0900	128.55	132	7.08	97.1	1.11	8.77	21.93	130	

Total Purge Volume: 136 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 2.0 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Purge start: 0748; brownish and odorless for 1st and 2nd intervals; the remainder clear and odorless; control box: 333**RECHARGE BEHAVIOR:** ☒ Fast recharging
Slow recharging (80% recharge did not occur after two hours)**WATER DISPOSAL**Purge water storage: PolytankPurge water disposal: 140**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

Original	MS/MSD	Blank	Other (Trip / Source /)
Sample ID: <u>MW-6</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>0906</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>3+1+1</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-7



Project Name: Quarterly Monitoring at JPL, Pasadena, CA.
 Project No: 04-4428.10
 Navy Contract No.: N68711-01-D-6008, D.O. No. 0001
 Sampled By: Dale Erbes and J. Robinson
 Date: 8/26/03
 Weather: Warm and Sunny

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{275}{\text{TD (feet)}} - \frac{205.8}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{135.52}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD

PUMP INTAKE SETTING

Bailer – Type: _____ Pump – Type: 2" Grundfos Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
1013	135.52	0.0	7.08	46.6	0.08	9.09	23.63	170	
1028		22.5	7.20	46.1	0.00	9.43	23.47	156	
1043		45.0	7.28	45.8	2.43	9.30	24.00	155	
1058		67.5	7.33	46.6	0.11	10.05	23.07	154	
1113		90	7.35	46.2	0.20	9.65	23.62	153	
1128		112.5	7.34	46.5	0.36	9.76	23.83	153	
1143	135.02	135.0	7.33	46.1	0.00	9.48	25.53	153	

Total Purge Volume: 140 (Gallons)

Total Discharge: 3.00 (Casing Volumes)

Approx. Purge Rate: 1.5 (GPM)

OBSERVATIONS DURING PUMPING

NOTES: (well condition, color, clarity, odor): Purge Start: 1013; clear and odorless; control box: 352

RECHARGE BEHAVIOR: ☒ Fast recharging
☐ Slow recharging (80% recharge did not occur after two hours)

WATER DISPOSAL

Purge water storage: Polytank

Purge water disposal: 140

WELL SAMPLING

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>MS / MSD</u>	<u>Additional Sampling</u>	<u>Other</u>
Sample ID: <u>MW-7</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>1147</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>3+1+1</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-8Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/25/03Weather: Warm and Sunny

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{205}{\text{TD (feet)}} - \frac{131.88}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{143.20}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**Bailer – Type: _____ ☒ Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
0822	131.88	0	7.18	46.6	4.9	11.43	19.45	202	
0842		50	7.27	44.5	0.65	11.79	19.52	208	
0902		100	7.10	43.3	0.00	9.26	21.19	220	
0922		150	7.42	44.2	0.00	10.70	20.90	202	
0930	131.75	170	7.33	44.3	0.00	10.13	19.63	207	

Total Purge Volume: 170 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 2.5 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Purge Start: 0822; clear and odorless; control box; 350**RECHARGE BEHAVIOR:** ☒ Fast recharging
Slow recharging (80% recharge did not occur after two hours)**WATER DISPOSAL**Purge water storage: PolytankPurge water disposal: 150**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-8</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>0934</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>3+1+1</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-10Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/25/03Weather: Cool and Clear

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{140}{\text{TD (feet)}} - \frac{81.97}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{113.65}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**Bailer – Type: _____ ☒ Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C)	ORP (mV)	Comments
0658	81.97	0.00	6.12	90.7	14.0	8.68	20.27	283	Non-calibrated Horiba V-22
0707		22.5	5.77	98.7	10.0	8.02	19.57	280	Non-calibrated Horiba V-22
0716		45.0	5.80	91.7	0.90	8.58	19.89	277	Non-calibrated Horiba V-22
0725		67.5	5.00	0.99	0.60	9.08	20.14	378	Calibrated Horiba V-22
0734		90.0	6.02	0.1	0.00	9.11	19.94	244	Calibrated Horiba V-22
0743	81.88	112.5	6.17	0.1	0.45	9.29	19.70	327	Calibrated Horiba V-22

Total Purge Volume: 112.5 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 2.5 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Purge Start: 0658; clear and odorless; control box: 288
RECHARGE BEHAVIOR: ☒ Fast recharging
 Slow recharging (80% recharge did not occur after two hours)
WATER DISPOSALPurge water storage: PolytankPurge water disposal: 115**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-10</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>0746</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>3+1+1</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-13Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/26/03Weather: Cool and Sunny

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{235}{\text{TD (feet)}} - \frac{175.89}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{115.76}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**Bailer – Type: _____ ☒ Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
0648	175.89	0.0	5.44	68.4	4.0	8.58	21.56	185	
0658		22.5	5.88	59.6	1.3	9.13	21.79	175	
0708		45.0	6.19	58.7	0.10	8.85	21.54	174	
0718		67.5	6.30	58.7	0.00	9.07	21.59	176	
0728		90.0	6.45	57.1	0.30	8.80	21.69	172	
0738	175.75	112.5	6.66	58.9	0.05	8.88	21.60	166	

Total Purge Volume: 115 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 2.25 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Begin Purge: 0648; clear and odorless; control box: 346
RECHARGE BEHAVIOR: ☒ Fast recharging
 Slow recharging (80% recharge did not occur after two hours)
WATER DISPOSALPurge water storage: PolytankPurge water disposal: 120**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-13</u>	Sample ID: _____	Type: _____	Type: _____
Sample Time: <u>0740</u>	Sample Time: _____	Sample ID: _____	Sample ID: _____
No. of Containers: <u>3+1+1</u>	No. of Containers: _____	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-15Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/27/03Weather: Cool and Cloudy

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{74}{\text{TD (feet)}} - \frac{39.51}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{67.55}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**Bailer – Type: _____ ☒ Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (° C)	ORP (mV)	Comments
0650	67.55	0	6.57	52.2	19.0	6.61	17.05	112	
0656		13.5	6.68	51.3	14.6	7.67	16.74	111	
0702		27.0	6.86	51.8	10.01	7.81	16.75	112	
0708		40.5	6.94	51.9	5.03	8.01	16.63	114	
0714		54.0	7.01	49.6	3.14	8.02	16.59	117	
0720	67.50	67.5	7.06	51.8	1.56	10.24	16.78	120	

Total Purge Volume: 68.0 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 2.25 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Purge Start: 0650; clear and odorless; control box: 215
RECHARGE BEHAVIOR: ☒ Fast recharging
 Slow recharging (80% recharge did not occur after two hours)
WATER DISPOSALPurge water storage: PolytankPurge water disposal: 70**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

<u>Original</u>	<u>Duplicate</u>	<u>Blank</u>	<u>Other (Trip / Source /)</u>
Sample ID: <u>MW-15</u>	Sample ID: <u>Dupe-6-3-Q03</u>	Type: _____	Type: _____
Sample Time: <u>0723</u>	Sample Time: <u>0729</u>	Sample ID: _____	Sample ID: _____
No. of Containers: <u>1+1</u>	No. of Containers: <u>2</u>	Sample Time: _____	Sample Time: _____
		No. of Containers: _____	No. of Containers: _____

ORIGINAL FIELD RECORD

GROUNDWATER COLLECTION AND SAMPLE LOG

WELL ID # MW-16Project Name: Quarterly Monitoring at JPL, Pasadena, CA.Project No: 04-4428.10Navy Contract No.: N68711-01-D-6008, D.O. No. 0001Sampled By: Dale Erbes and J. RobinsonDate: 8/26/03Weather: Cool and Sunny

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PURGE VOLUME CALCULATION (casing volume):

$$\left(\frac{285}{\text{TD (feet)}} - \frac{228.85}{\text{WL (feet)}} \right) \times \frac{4^2}{\text{D (inches)}} \times \frac{3}{\text{\# Vols}} \times 0.0408 = \frac{109.96}{\text{Calculated Purge Volume}} \text{ Gallons}$$

PURGE METHOD**PUMP INTAKE SETTING**

Bailer – Type: _____

Pump – Type: 2" Grundfos

Depth in feet (BTOC): _____

FIELD PARAMETER MEASUREMENT

Time	Depth to Water (Feet)	Total Discharge (Gallons)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C)	Salinity (%)	Comments
0805	109.96	0	6.93	48.8	2.9	8.86	22.93	156	
0819		21.0	6.98	46.1	0.05	9.05	22.87	156	
0833		42.0	6.98	48.0	0.00	9.03	23.03	156	
0847		63.0	7.00	47.6	0.00	9.04	22.88	156	
0901		84.0	7.01	48.8	0.20	9.80	22.90	157	
0915		105.0	7.02	48.1	0.20	8.68	23.53	156	

Total Purge Volume: 110 (Gallons)Total Discharge: 3.00 (Casing Volumes)Approx. Purge Rate: 1.5 (GPM)**OBSERVATIONS DURING PUMPING****NOTES:** (well condition, color, clarity, odor): Purge Start: 0805; clear and odorless; control box: 376
RECHARGE BEHAVIOR: ☒ Fast recharging
☐ Slow recharging (80% recharge did not occur after two hours)
WATER DISPOSALPurge water storage: PolytankPurge water disposal: 115**WELL SAMPLING**

Sample Depth in feet (BTOC): _____

Original**MS / MSD****Additional Sampling****Additional Sampling**Sample ID: MW-16Sample ID: MW-16

Type: _____

Type: _____

Sample Time: 0921Sample Time: 0921

Sample ID: _____

Sample ID: _____

No. of Containers: 3+1+1No. of Containers: 5

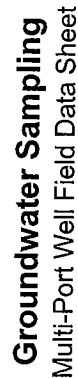
Sample Time: _____

Sample Time: _____

No. of Containers: _____

No. of Containers: _____

ORIGINAL FIELD RECORD



Contract #: N68711-01-D-6008
Delivery Order #: 0001

Well ID: MW-21

Sampling Zone No.: 5/4/3/2/1

Depth (ft): ~~372~~ 310/240/161 / 90

Beginning of Session: 14.16

Water Pressure Inside Casing:

Start Time: 1030

Finish Time: 1400

Date: 7.29.03

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Notes:

NOTES:
PORTS: CLEAR NO 070R

Port 3: LEAP, NO ODR

Port 1: Yellowish Brown, no odor

PORT 4: CLEAR, NO WORK

Part 2: CLEAR NO POR

Total Volume:

[illegible]



Well ID: MW-19

Sampling Zone No.: 5/4/3/2/1

Depth (ft): 498/444/392/314/242

End of Session: 14:52

Date: 7/30/03
Page: 10 of 1

Notes:

PORT 4: Clear + Outdoors

PORT 1: 0000 + 0000
PORT 2: '1 '1

Total Volume:



Date: 11/30/05
Page: 101

Prpt 3: Clear + waterless color



Contract #: N68711-01-D-6008
Delivery Order #: 0001

End of Session: 4.13

Finish Time: 1218

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Water Pressure Inside Casing:

[illegible]

Part 4: clear + add 100

Total Volume:



Groundwater Sampling
Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008
Delivery Order #: 0001

Well ID: HU-20

Sampling Zone No.: 5/4/3/2/1

Depth (ft): 900/700/502/392/230

Beginning of Session: 14.14

End of Session: 17.25

Start Time: 0737

Finish Time: 0712 46

Date: 7/31/03

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Water Pressure Inside Casing: —

Port #	Run #	Surface Function Checks						Position Sampler	Sample Collection Checks							Water Quality Parameters																											
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in		Arm In	Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Temp. (oC)	Cond (mmhos)																			
5	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	304.58	✓	327.38	✓	✓	✓	304.77	0800.58	5.98	0.21	21.55	32.3	5																				
4	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	217.67	✓	240.50	✓	✓	✓	217.59	0804.46	6.46	0.35	22.71	30.3	4																				
4	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	218.44	✓	248.17	✓	✓	✓	217.48	0804.46	6.46	0.35	22.71	30.3	4																				
4	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	217.44	✓	248.17	✓	✓	✓	217.48	0804.46	6.46	0.35	22.71	30.3	4																				
3	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	156.98	✓	177.08	✓	✓	✓	157.28	1106.46	6.46	0.25	23.44	54.6	3																				
3	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	157.01	✓	177.08	✓	✓	✓	157.25	1113.13	6.46	0.25	23.44	54.6	3																				
3	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	83.22	✓	105.11	✓	✓	✓	83.27	1158.46	6.46	0.12	22.67	34.8	2																				
1	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	14.23	✓	35.13	✓	✓	✓	14.30	1223.02	7.02	1.02	25.76	58.0	1																				
																																										</	

Notes:

Port 5: Clear + odorless
Port 3: Clear + odorless (mild)
Port 1: Clear + odorless
Port 4: Bottom of Order + Clear
Port 2: Clear + odorless

Total Volume: _____



Contract #: N68711-01-D-6008
Delivery Order #: 0001

Sampling Zone No.: 5-4-3-2-4 Start Time: 0741
 Depth (ft): 684, 564, 524, 330, 220 Finish Time: 0920
 Beginning of Session: 14.14
 End of Session: 14.24

Water Pressure Inside Casing:

Date: 8/4/03
Page: 1081

[illegible]

Total Volume:

Part 5: Client no order	Part 4: Clean + order vso
Part 3: Clean + order	Part 2: "
	Part 1: "



Contract #: N68711-01-D-6008
Delivery Order #: 0001

Sampling Zone No.: 443/2/1

Zone No.: 243/21

Depth (ft): 322/240/150

Beginning of Session: 14.21

End of Session: 14.18

Water Pressure Inside Casing:

Start Time: 0945

Finish Time: 1140

Date: 8/4/03

Page: 1 of 1

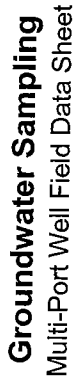
[illegible]

Notes:

Pot 4: brownish yellow; odor
 Pot 17: Green + odorless

Part 2: Charles Darwin

Total Volume:



Contract #: N68711-01-D-6008
Delivery Order #: 0001

Well ID: MW-23

Sampling Zone No.: 4/3/2/1

Depth (ft): 445/319/251/174

Beginning of Session: 14.14

End of Session: 14.23

Water Pressure Inside Casing:

Start Time: 0712

Finish Time: 0832

Date: 8/6/03

Page: 101[illegible]

Notes:

Notes:
 Post 4: Clear + odors
 Post 2: " "

Part 3: Clean & odorous

Total Volume:



Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008

Delivery Order #: 0001

Well ID: MW-24-a-

Sampling Zone No.: 4/3/2/1

Depth (ft): 551/35/373/287

Beginning of Session: 14.14

End of Session: 14.25

Water Pressure Inside Casing: _____

Start Time: 0906

Finish Time: 1145

Date: 8/6/03

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Port #	Run #	Surface Function Checks						Position Sampler	Sample Collection Checks								Water Quality Parameters						
		Shoe Out	Vacuum Check Valve Closed	Valve Open	Evacuate Container	Valve Closed	Shoe in		Arm In	Deactivate Set Arm Locate Port	Arm out	Pressure in MP	Shoe Out	Zone Pressure	Open Valve	Zone Pressure	Close Valve	Shoe In	Pressure in MP	Time	PH	Turb. (NTU)	Temp. (oC)
3	1	✓	✓	✓	✓	✓	✓	✓	✓	147.30	✓	258.11	✓	✓	✓	✓	✓	147.4	0929.52	1.10	22.74	34.70	
3	1	✓	✓	✓	✓	✓	✓	✓	✓	109.99	✓	178.27	✓	✓	✓	✓	✓	147.4	0929.52	1.10	22.74	34.70	
3	1	✓	✓	✓	✓	✓	✓	✓	✓	109.99	✓	141.93	✓	✓	✓	✓	✓	110.36	09429.07	0.00	22.87	50.1	
3	2	✓	✓	✓	✓	✓	✓	✓	✓	112.94	✓	143.56	✓	✓	✓	✓	✓	110.36	09429.07	0.00	22.87	50.1	
3	2	✓	✓	✓	✓	✓	✓	✓	✓	109.90	✓	141.91	✓	✓	✓	✓	✓	110.32	10117.05	0.75	23.20	53.9	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	78.04	✓	109.86	✓	✓	✓	✓	✓	78.04	10340.03	0.10	23.96	95.2	
2	2	✓	✓	✓	✓	✓	✓	✓	✓	78.00	✓	109.84	✓	✓	✓	✓	✓	78.00	10587.02	0.25	23.75	97.40	
2	1	✓	✓	✓	✓	✓	✓	✓	✓	32.78	✓	64.52	✓	✓	✓	✓	✓	32.7	11216.80	2.10	25.37	0.1	

Notes:

Port 3: Clear + odorous

Port 1: "

Port 2: Clear + odorous

Port 4: Clear + H₂S odor (strong)

Total Volume: _____



Contract #: N68711-01-D-6008
Delivery Order #: 0001

Sampling Zone No.: 5/4

Depth (ft): 320/456

End of Session: 14.10

Water Pressure Inside Casing:

Start Time: 1117
Finish Time: 1219

Date: 8.7.03
Page: 1061

Notes:

Part 5: Clear 10 dollars

Part 4: Clean + scholarly

Total Volume:

[illegible]



Contract #: N68711-01-D-6008
Delivery Order #: 0001

Well ID: Hw-11

Sampling Zone No.: 4/3/2/1

Depth (ft): 524/429/259/139

Beginning of Session: 14.15

Water Pressure Inside Casing:

Start Time: 0720

Finish Time: 0851

Date: 8.7.03

Page: 1 of 1

Notes:

Notes: Part 4: Clear & address

Post 2: 11 11

Part 3: brownies yellow + odors

Part 1: Clean & odorous

Total Volume:

[illegible]



Groundwater Sampling

Multi-Port Well Field Data Sheet

JPL Pasadena

Contract #: N68711-01-D-6008

Delivery Order #: 0001

Well ID: MB-24

Sampling Zone No.: 2/3/2/1

Depth (ft): 554/435/573/279

Beginning of Session: 14.14

Water Pressure Inside Casing:
End of Session: 14.23

Start Time: 0927

Finish Time: 1054

Date: 8/7/03

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Notes:

Notes: Part 4: Clean + address

Part 3: Clear 1 order lines

Part 1: "

Total Volume:



Well ID: MW-12

Sampling Zone No.: 514/2121 Start Time: 0948
 Depth (ft): 548/436/323 ²⁴³ Finish Time: 1200
~~244/440~~

Beginning of Session: 14.20

Water Pressure Inside Casing:

End of Session: 14.19

Start Time: 0948
Finish Time: 1200

Date: 8.11.03
Page: 1 of 1

[illegible]

NOTES:

Part 5:	clear + occlusal
Part 3:	" "
Part 1:	" "

Total Volume:

Part 4: Clean + odorous
Part 2: " "